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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/707,604	11/07/2000	Nan Shan Hwu	401 P 235 (SAA-52)	9654

7590 06/25/2004
 Larry I Golden
 Square D Company
 1415 South Roselle Road
 Palatine, IL 60067

EXAMINER

PEREZ DAPLE, AARON C

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/707,604	Applicant(s) HWU ET AL.	
	Examiner Aaron C Perez-Daple	Art Unit 2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Action is in response to Amendment filed 1/12/04, which has been fully considered.
2. Claims 1-22 are cancelled by Applicant.
3. New claims 23-38 are presented for examination.
4. This Action is non-Final.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. **Claims 28-33** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, the limitation found in lines 7-9 of claim 28 introduces new matter which is not enabled by application as originally filed. Lines 7-9 of claim 28 recite, "to transfer the application program and the plurality of state variables to the second controller via the fiber optic cable *in response to detecting an error associated with the first controller.*" Pages 11-14 of the specification disclose that it is possible to transfer the application program between the controllers via the fiber optic cable in order to correct a mismatch in the application programs between the first and second controllers. Normally, this process would occur after an update to the software of the first controller. This transfer is further disclosed as initiated by a user

and is *nowhere* disclosed as occurring as the result of a detected error. Therefore, the specification is not enabling for the limitations found in the claim.

7. As dependent claims, claims 29-33 suffer from the same deficiencies as claim 28.
8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. **Claims 28-33** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Lines 7-9 of claim 28 recite, "to transfer the application program and the plurality of state variables to the second controller via the fiber optic cable *in response to detecting an error associated with the first controller.*" As discussed in the 112 first paragraph rejection above, this limitation has not been enabled by the application and it is therefore unclear to the Examiner what the Applicant intends to claim. For example, what type of error is detected? Furthermore, it does not make sense to transfer the application program in response to detecting an error in the *first* controller, since you would then risk copying the error from the first controller to the secondary controller, which is contrary to the purpose of the invention. Furthermore, Applicant admits that the transfer of an application program would frequently require multiple scans (top of pg. 14) or, at the very least, would require a significant amount of time. Therefore, it would be impractical to transfer an application program from the first to second controllers upon detecting an error in the first controller because of the large amount of time required, which is also contrary to the purpose of the invention. For the purpose of applying prior art, very little patentable weight will be given to the limitation "to transfer the application program and the plurality of state variables

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to the second controller via the fiber optic cable in response to detecting an error associated with the first controller.”

10. As dependent claims, claims 29-33 suffer from the same deficiencies as claim 28.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

12. **Claims 23-26 and 34-37** are rejected under 35 U.S.C. 102(a) as being anticipated by applicant's admitted prior art (specification, pg. 5, line 25 – pg. 7, line 14, “Controllers have been...the secondary controller.”; Fig. 1) (hereinafter AAPA).
13. As for claims 23 and 34, AAPA discloses a control system comprising:
- a host processor (P-unit 19, Fig. 1);
 - a first controller communicatively coupled to the host processor, the first controller being associated with a first network identifier, the first controller including a first module connected to a second module via a first backplane (primary controller 12, Fig. 1; pg. 7, first paragraph, “Existing control...the secondary controller.”);
 - a second controller communicatively coupled to the host processor, the second controller being associated with a second network identifier, the second controller including a third module connected to a fourth module via a second backplane (secondary controller 12, Fig. 1; pg. 7, first paragraph, “Existing control...the secondary controller.”); and

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a fiber optic cable connecting the first controller and the second controller (fiber optic cable 17, Fig. 1);

wherein the first controller is programmed to transfer the first network identifier to the second controller via either one of the first backplane and the second backplane, the transfer being in response to detecting an error associated with the first controller (pg. 7, first paragraph, "Existing control...the secondary controller.").

14. As for claims 24 and 35, AAPA discloses the active standby system of claim 24 and the method of claim 34 wherein each controller comprises:

a processor (CPU 26, Fig. 1);

a co-processor (hot standby module 20, Fig. 1);

an operating system executed by the processor (inherent); and,

a co-operating system executed by the co-processor (inherent) wherein the operating system and the co-operating system cooperate to transfer data between the first and second controllers (col. 7, lines 7-14, "Communication between the...the secondary controller.").

15. As for claims 25 and 36, AAPA discloses the active standby system of claim 24 and the method of claim 34 wherein the first controller comprises a network module and the first network identifier is determined by an operating state of the first controller (pg. 5, line 25 – pg. 7, line 14, "Controllers have been...the secondary controller."; Fig. 1).

16. As for claims 26 and 37, AAPA discloses the active standby system of claim 24 and the method of claim 34 wherein each controller further comprises a remote IO head (remote IO heads 18, Fig. 1) and each remote IO head is operably connected together and to a remote IO drop (remote IO drops 24, Fig. 1).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
18. **Claims 27 and 38** are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Yamamoto (US 6,049,825) (hereinafter Yamamoto).
19. As for claims 27 and 38, AAPA does not disclose an active standby system of claims 23 and 34 wherein the network identifier is an Internet Protocol address. Yamamoto discloses an active standby system wherein the network identifier is an Internet Protocol address (col. 5, lines 47-65, "To accomplish the above...network interface layer."). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify AAPA by using an Internet Protocol address as the network identifier, because this would allow automatically switching between the primary and secondary controllers with a quick recovery time, as taught by Yamamoto (col. 5, lines 9-14, "Taking the above...the TCP/IP protocol.").
20. **Claims 28-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Flood et al. (US 5,777,874) (hereinafter Flood).
21. As for claim 28, AAPA discloses a control system comprising:
- a host processor (P-unit 19, Fig. 1);

a first controller communicatively coupled to the host processor, the first controller executing an application program, the first controller storing a plurality of state variables (primary controller 12, Fig. 1; pg. 7, first paragraph, "Existing control...the secondary controller.");

a second controller communicatively coupled to the host processor (secondary controller 12, Fig. 1; pg. 7, first paragraph, "Existing control...the secondary controller."); and

a fiber optic cable connecting the first controller and the second controller (fiber optic cable 17, Fig. 1);

wherein the first controller is programmed to transfer the plurality of state variables to the second controller in response to detecting an error associated with the first controller (pg. 7, first paragraph, "Existing control...the secondary controller.").

Although obvious to one of ordinary skill in the art, AAPA does not specifically disclose transferring the application program to the second controller. Flood teaches transferring an application program from the primary to the secondary controller for the purpose of maintaining an updated backup system (col. 11, lines 30-54, "Referring now to Fig. 6...is also supported."). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify AAPA by transferring an application program from the primary to the secondary controller for the purpose of maintaining an updated backup system, as taught by Flood above.

22. As for claim 29, AAPA discloses the control system of claim 28 wherein each controller comprises:

a processor (CPU 26, Fig. 1);

- a co-processor (hot standby module 20, Fig. 1);
- an operating system executed by the processor (inherent); and,
- a co-operating system executed by the co-processor (inherent) wherein the operating system and the co-operating system cooperate to transfer data between the first and second controllers (col. 7, lines 7-14, "Communication between the...the secondary controller.").
23. As for claim 30, AAPA discloses the control system of claim 28 wherein the first controller comprises a network module and the first network identifier is determined by an operating state of the first controller (pg. 5, line 25 – pg. 7, line 14, "Controllers have been...the secondary controller."; Fig. 1).
24. As for claim 32, AAPA discloses the control system of claim 28 wherein each controller further comprises a remote IO head (remote IO heads 18, Fig. 1) and each remote IO head is operably connected together and to a remote IO drop (remote IO drops 24, Fig. 1).
25. As for claim 33, AAPA discloses the control system of claim 28, wherein
- the first controller is associated with a first network identifier, the first controller including a first module connected to a second module via a first backplane (primary controller 12, Fig. 1; pg. 7, first paragraph, "Existing control...the secondary controller.");
- the second controller is associated with a second network identifier, the second controller including a third module connected to a fourth module via a second backplane (secondary controller 12, Fig. 1; pg. 7, first paragraph, "Existing control...the secondary controller.");
- and
- the first controller is programmed to transfer the first network identifier to the second controller via the fiber optic cable and not via either one of the first backplane and the second

backplane, the transfer being in response to detecting an error associated with the first controller (pg. 7, first paragraph, "Existing control...the secondary controller.").

26. **Claim 31** is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Flood and in further view of Yamamoto (US 6,049,825) (hereinafter Yamamoto). Neither AAPA nor Flood disclose an active standby system of claim 30 wherein the network identifier is an Internet Protocol address. Yamamoto discloses an active standby system wherein the network identifier is an Internet Protocol address (col. 5, lines 47-65, "To accomplish the above...network interface layer."). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify AAPA and Flood by using an Internet Protocol address as the network identifier, because this would allow automatically switching between the primary and secondary controllers with a quick recovery time, as taught by Yamamoto (col. 5, lines 9-14, "Taking the above...the TCP/IP protocol.").

Response to Arguments

27. Applicant's arguments filed 4/26/04 have been fully considered but they are not persuasive.
28. First, with reference to independent claims 23 and 34, Applicant asserts that the prior art fails to disclose transferring the network identifier between the first and second controllers *not* via either one of the first or second backplanes. The Examiner respectfully disagrees. The claims merely recite transferring the network identifier between the first and second *controllers* via the fiber optic cable and are not limited to transferring the network identifier directly between specific modules (e.g. such as the processor modules) of the controllers.

Applicant's admitted prior art (AAPA) illustrated in Fig. 1 discloses transferring the network identifiers *directly* between the hot standby modules via a fiber optic cable. See also the first full paragraph of pg. 6 of the specification. Because the hot standby modules are interpreted as part of the larger controllers, this is sufficient to teach transferring the network identifier between the first and second controllers *not* via either one of the first or second backplanes. This interpretation holds even if the network identifier is transmitted over the backplane *prior* to or *subsequent* to the transfer between controllers.

29. With reference to independent claim 28, Applicant's assertion that the prior art fails to teach transferring the application program to the second controller via the fiber optic cable is moot in view of the new grounds of rejection.

Conclusion


30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron C Perez-Daple whose telephone number is (703) 305-4897. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703) 305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information

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about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Aaron Perez-Daple


ZARNI MAUNG
PRIMARY EXAMINER